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Update on Water Quality

United States Department of Agriculture

Progress Update #9 — July 1991

Chesapeake Bay Water Quality Field Trip

Keith Bjerke, Administrator, Agricultural Stabilization and Conservation Service (ASCS); Bill Richards, Chief, Soil Conservation Service (SCS); and Myron Johnsrud, Administrator, Extension Service (ES); participated in a water quality field trip May 17-18 on Port Isabel Island in Tangier Sound along the lower Chesapeake Bay. Senior staff from each USDA agency responsible for administering national water quality programs, accompanied the group. Other participants included ASCS and State and local staff, State Extension Directors and Administrators, and SCS State conservationists from Maryland, Pennsylvania, and Virginia.

Discussions focused on:

- The vital role tidal and upland wetlands play in providing food and habitat; controlling excess nutrients from livestock waste and runoff; storing flood waters; and filtering pollutants.

- Land-based problems—erosion from improper agricultural and development practices; excess nutrients from sewage treatment plants, septic tanks, and nonpoint source runoff; and toxins from industry, agriculture, and households.
- The role of governments and the private sector in the overall Bay cleanup, including the need to coordinate research, evaluation, and the monitoring of water quality efforts to assure success.

The trip was coordinated by The Alliance for the Chesapeake Bay, Inc., a coalition of more than 100 business, industry, citizen, and environmental groups working on policies that will lead to a cleaner Bay. For additional information, contact Gerald Calhoun, Water Quality Liaison, ES/SCS, and member of the Alliance's Board of Directors, at 202-447-4946.

Animal Waste Management Forum

At Extension's invitation, experts from industry, government, and land-grant universities will attend a public forum, July 29-31, 1991, in Kansas City, MO, to explore present and future impacts of livestock, poultry, and aquaculture waste on water quality.

Cooperating with Extension Service in sponsoring the forum are the USDA's Agricultural Research and Soil Conservation Services, Michigan State

University, the Environmental Protection Agency, and the Tennessee Valley Authority.

For additional information on the forum, scheduled to be held at the Westin Crown Center Hotel, Kansas City, contact Richard Reynolds, ES-USDA National Program Leader, Poultry Science, Room 334, South Building, Washington, DC 20250-0900. Telephone: 202-447-4087.

Paper on Nitrate Contamination Sources

USDA's Working Group on Water Quality recently prepared a paper on "Water Quality and Nitrates: Agricultural Sources of Nitrate and Approaches to Reduce Nitrate Contamination of Waters." Eight USDA agencies developed this information piece that gives an overview of nitrate occurrence in U.S. waters. The paper

emphasizes USDA's work to minimize the impact of nitrate from agricultural activities.

Copies were sent to respective agency field staff. For additional information, contact Francis Thicke, ES-USDA National Program Leader for Soil Science, at 202-447-5369.

**USDA-CSRS
Water Quality
Activities**

*Priority Components
Research Program:*

Twenty-three water quality research grants were competitively selected for awards in 1989 and 46 in 1990 under the Cooperative State Research Service (CSRS) Water Quality Special Research Grants Program, with another 44 to be awarded by CSRS in 1991. These projects are part of CSRS's major program component under the President's Water Quality Initiative.

The following are selected examples of progress being made on some of these research grants:

- Progress is being made by South Carolina scientists in the use of an electromagnetic (EM) technique to map underground concentrations of certain chemicals leaking from farm lagoons.
- Research in North Carolina shows progress in mapping the potentials of soils for poultry litter application as based on soil characteristics.
- Promising new methods for safe on-farm disposal of pesticide wastes are being developed by Arkansas scientists.
- Greater understanding is being obtained by scientists on the degradation, persistence, and movement of pesticides, such as atrazine and metolachlor and other chemicals at several locations. Early results in Montana studies show dicamba movement through soils was reduced as more time was allowed between chemical application and irrigation.
- Missouri research shows that movement of pesticides through soil cracks and large pores was decreased if irrigation was delayed after application of chemicals.
- Less preferential flow of water and solute occurred in soils if applications of chemicals were made to wet soils after irrigation rather than to dry soils before irrigation in Arizona research.
- Detoxification of contaminated soils and water by inoculation with microbes or by application of enzymes holds promise of being more cost-effective than presently-used physical-chemical treatments, according to research in Pennsylvania.
- West Virginia studies of the bacterial quality of water passing through activated charcoal filters, show promise for cleaning up drinking water in home water systems.
- In Washington and Oregon, economic costs are being determined of farm management changes that could result from policies to abate possible nitrate build-up in ground water. Records of chemical use and field operations are being combined with soil and other factors to improve prediction models of chemical contamination of ground water.
- Improved models are the result of research in Oklahoma and Florida that can better match soils and crop management strategies for use by Extension, Soil Conservation Service, and farm managers.
- In New York research, improved simulation models and geographic information system (GIS) maps are being developed, improved, and tested to predict chances of pesticide movement to ground water.

**Monocacy
Project Tour**

A Farm Demonstration Tour of one of the USDA Demonstration Projects in Maryland, will be held Friday, July 26th. The focus of the program is to show Monocacy target area farmers how Best Management Practices (BMP's) are being implemented on neighboring farms. The idea is to let farmers talk to

farmers about the pros and cons of various practices, and discover what options might work well on their own operations. ES, SCS, and ASCS are cosponsors of this project near Frederick, MD. For information about the tour call the Monocacy Project office at (301) 899-0133.



Harry C. Mussman
Chairman, USDA Working
Group on Water Quality



